

Name: \_\_\_\_\_

### at1118paper: Complete the Square (v420)

#### Example

By completing the square, find both solutions to the given equation:

$$x^2 - 60x = -576$$

Add  $(\frac{-60}{2})^2$ , which equals 900, to both sides of the equation.

$$x^2 - 60x + 900 = 324$$

Factor the left side.

$$(x - 30)^2 = 324$$

Undo the squaring. We need to consider both  $\pm\sqrt{324}$ .

$$x - 30 = -18$$

or

$$x - 30 = 18$$

$$x = 12$$

or

$$x = 48$$

#### Question 1

By completing the square, find both solutions to the given equation:

$$x^2 - 32x = -240$$

#### Question 2

By completing the square, find both solutions to the given equation:

$$x^2 + 46x = -273$$

**Question 3**

By completing the square, find both solutions to the given equation:

$$x^2 - 46x = 627$$

**Question 4**

By completing the square, find both solutions to the given equation:

$$x^2 - 18x = 88$$

**Question 5**

By completing the square, find both solutions to the given equation:

$$x^2 + 18x = 1008$$

**Question 6**

By completing the square, find both solutions to the given equation:

$$x^2 + 30x = -104$$